



# Unibrazed 309LMo-T1

All Position

## Classification:

AWS A5.22. E309LMoT1-1/4

## Description:

**Unibrazed** 309LMo-T1 is a gas-shielded, flux cored, stainless steel electrode designed to weld in all positions. It has a nominal weld metal composition of 24% chromium and 13% nickel with a maximum carbon content of 0.04%. The welds contain comparatively much more ferrite in their austenitic, therefore they provide better weldability together with superior heat resistance and corrosion resistance.

## Characteristics:

**Unibrazed** 309LMo-T1 provides superb performance characteristics in all positions, using either CO<sub>2</sub> or argon + 20-25% CO<sub>2</sub> shielding gas. Shielding gas mixtures with more than 75-80% argon are not recommended. Flat, well washed beads can be achieved with minimal weaving. Spatter is very low and slag peeling is excellent, minimizing cleanup. DCEP Reverse Polarity.

## Applications:

**Unibrazed** 309LMo-T1 finds application in the welding of refinery and chemical processing equipment. It is used to weld dissimilar materials such as mild steels and low alloyed QT steels, ferritic Cr and austenitic Cr-Ni steels, and manganese steels. Also used as the first layer of corrosion resistant weld claddings on ferritic-perlitic steels in boiler and pressure vessel parts up to fine grained steel S500N

## Typical Mechanical Properties: (CO<sub>2</sub>)\*

Ultimate Tensile Strength (psi) 85,100  
Yield Strength (psi) 66,900  
Percent Elongation 30 %

\* Strength levels will be slightly higher w/Ar+20-25% CO<sub>2</sub>

## Typical Weld Deposit Chemistry: (CO<sub>2</sub>)

C - 0.03      Mn - 0.95      Cr - 24.0      Si - 0.80      Ni - 13.50      Mo - 2.5  
Ferrite Number (WRC, 1992) - 18

## Typical Welding Parameters: (CO<sub>2</sub>)\*\*

Diameter	WFS (ipm)	Amperage	Voltage	ESO (in.)	Dep. Rate (lbs/hr)
.045"	250	130	24	5/8-3/4"	5.4
<b>.045"</b>	<b>300</b>	<b>160</b>	<b>26</b>	<b>5/8-3/4"</b>	<b>6.3</b>
<b>.045"</b>	<b>425</b>	<b>200</b>	<b>28</b>	<b>5/8-3/4"</b>	<b>9.2</b>
.045"	780	270	34	5/8-3/4"	16.2
1/16"	150	170	25	3/4-1"	5.4
<b>1/16"</b>	<b>195</b>	<b>215</b>	<b>27</b>	<b>3/4-1"</b>	<b>7.0</b>
<b>1/16"</b>	<b>240</b>	<b>250</b>	<b>28</b>	<b>3/4-1"</b>	<b>8.6</b>
1/16"	320	305	29	3/4-1"	11.5

\*\* Optimum conditions are in boldface type. Reduce by 2 volts when using Ar+20-25% CO<sub>2</sub>.

Notice: The results reported are based upon testing of the product under controlled laboratory conditions in accordance with American Welding Society Standards. Actual use of the product may produce different results due to varying conditions. An example of such conditions would be electrode size, plate chemistry, environment, weldment design, fabrication methods, welding procedure and service requirements. Thus the results are not guarantees for use in the field. The manufacturer disclaims any warranty of merchantability or fitness for any particular purpose with respect to its products.